

CLAIMS

We claim:

1. A method of inhibiting *Pseudomonas aeruginosa* infection comprising inoculating a patient with an effective amount of PcrV antigen.

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2. The method of claim 1 wherein the PcrV antigen is a fragment of the PcrV protein, said fragment capable of inducing an immune response specific to the V antigen.

10 3. The method of claim 1 wherein the patient is inoculated with a gene vaccine comprising DNA encoding PcrV.

15 4. The method of claim 3 wherein the DNA encodes a fragment of the PcrV protein, said fragment capable of inducing an immune response specific to the V antigen.

5. The method of claim 1 wherein the patient is a human patient.

20 6. A method of diagnosing *Pseudomonas aeruginosa* infection comprising the step of exposing a patient's sample to a nucleotide probe, wherein the probe hybridizes specifically to a PcrV-encoding nucleic acid and not to other nucleic acids.

7. The method of claim 6 wherein the patient is a human patient.

8. A method of diagnosing a *Pseudomonas aeruginosa* infection comprising the steps of

- a) exposing a patient's sample to nucleotide primers designed to amplify the *pcrV* gene,
- 5 b) performing a polymerase chain reaction, wherein the *pcrV* gene is amplified if present in the sample, and
- c) correlating *Pseudomonas aeruginosa* infection with the presence of an amplified product.

10 9. The method of claim 8 wherein the patient is a human patient.

10. A method of diagnosing a *Pseudomonas aeruginosa* infection, comprising the steps of:

- a) exposing the patient sample to a PcrV antigen, and
- 15 b) correlating *Pseudomonas aeruginosa* infection with the presence of a PcrV-specific antibody/antigen complex.

11. A method of inhibiting *Pseudomonas aeruginosa* infection comprising inoculating a patient with an effective amount of a gene vaccine, 20 wherein the gene vaccine encodes PcrV antigen.

12. The method of claim 11 wherein the gene vaccine encodes the entire PcrV protein.

25 13. The method of claim 11 wherein the gene vaccine encodes a fragment of the PCR PcrV protein, wherein the fragment is capable of inducing an immune response specific to the PcrV antigen.

14. The method of claim 11 wherein the patient is a human patient.

15. A method of treating or preventing *Pseudomonas aeruginosa* infection comprising the steps of obtaining a humanized or human PcrV antibody or antibody fragment, and administering the antibody systemically, wherein the antibody inhibits or prevents *Pseudomonas aeruginosa* infection.

16. A method of treating or preventing *Pseudomonas aeruginosa* infection comprising the steps of obtaining a humanized or human PcrV antibody or antibody fragment and administering the antibody to the lungs as a therapeutic agent.

17. A method of treating a *Pseudomonas aeruginosa* infection comprising the step of inoculating a *Pseudomonas aeruginosa*-infected patient with an effective amount of PcrV antigen.

18. An antibody specific for the PcrV antigen.

19. The antibody of claim 18, wherein the antibody is a monoclonal.

20. The antibody of claim 19, wherein the antibody is mab 166.